

REMARKS

I. Status of the Claims

With this amendment, claims 1-15 and 20 are pending. Claims 16-19 have been cancelled without prejudice or disclaimer of the subject matter therein. Applicant specifically reserves the right to pursue all deleted subject matter in one or more divisional and/or continuation applications.

Claims 1 and 7 have been amended to “represent a functional group with a structure where a halogen atom becomes an active halogen atom when the halogen atom is bound to a constituting carbon atom.” Support for these amendments can be found in claims 1, 2, 7, 8 and 10 as originally filed, and also in the original specification at p. 11, lines 6-8 (which provides the definition of “active halogen”). Thus, no new matter has been added.

Claim 20 has been amended to remove the limitation “or the hyperbranched polymer according to claim 16 or 17 as a core thereof” because of the cancellation of claims 16 and 17. No new matter has been added by this amendment.

II. Claim rejections under 35 U.S.C. § 102(b)

1. Claim rejections over Wang

Claims 1, 4-16 and 18-20 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No 6,639,032 (“Wang”).

The Examiner states that Wang discloses a process for making hyperbranched polymers from monomers such as (1-chloromethyl trichloroacetyl)ethyl acrylate and (1-chloromethyl trichloroacetyl)ethyl ether, which are further polymerized. The Examiner also states that Wang teaches that the molecular distribution of the polymers is from 1.001 to 100 with a molecular weight from 100 to 10^6 and that the polymers can be polymerized into a star polymer and polymerized with functional end groups.

Applicant respectfully traverses the rejection.

Amendment dated February 20, 2009

Reply to Office Action dated November 21, 2008

As a first matter, Applicant notes that claims 16-19 have been cancelled by this amendment. Thus, this rejection is moot with respect to claims 16, 18 and 19.

Amended claims 1 and 7 now recite Y and Y₁ as “representing a functional group with a structure where a halogen atom becomes an active halogen atom when the halogen atom is bound to a constituting carbon atom.” Therefore, Y and Y₁ do not include a methyl group, which cannot make an active halogen atom when the halogen atom is bound to a constituting carbon atom. Accordingly, the multi-branched polymers of the instant claims cannot be obtained from monomers such as (1-chloromethyl trichloroacetyl)ethyl acrylate and (1-chloromethyl trichloroacetyl)ethyl ether as disclosed by Wang. Thus, pending claims 1, 4-15 and 20 are not anticipated by Wang, and this rejection should be withdrawn.

2. Claim rejections over Ohsawa

Claims 1-3 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No 6,551,758 (“Ohsawa”). The Examiner states that Ohsawa discloses a resin used in a resist composition and that the polymer is a hyperbranched polymer. The Examiner states that the limitations of the present invention’s claims are satisfied when R₄ is H or methyl, x is 0, ZZ is CH₂ and y is 2.

Applicant respectfully traverses the rejection.

Ohsawa does not disclose the multi-branched polymers having Y and Y₁ as a functional group with a structure where a halogen atom becomes an active halogen atom when the halogen atom is bound to a constituting carbon atom. Accordingly, the multi-branched polymers of the instant claims cannot be obtained from Ohsawa. Thus, claims 1-3 are not anticipated by Ohsawa, and this rejection should be withdrawn.

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2. Claim rejections over Matyjaszewski

Claims 1-3, 7-9, 14-15, 17, 18 and 20 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No 5,763,548 (“Matyjaszewski”). The Examiner states that Matyjaszewski discloses a living polymerization process used to produce star and hyperbranched polymers and includes a various different numbers of structures. The Examiner states that particularly one structure can be an alkene with a phenyl ring, in which each hydrogen atom may be substituted 1-5 times with an alkyl of 1 to 20 carbon atoms, in which each of the hydrogen atoms is independently replaced by a halide and that this structure matches the claim limitations as stated above.

Applicant respectfully traverses the rejection.

As a first matter, Applicant notes that claims 17 and 18 have been cancelled by this amendment. Thus, this rejection is moot with respect to those claims.

Matyjaszewski does not disclose the multi-branched polymers having Y and Y₁ as a function group with a structure where a halogen atom becomes an active halogen atom when the halogen atom is bound to a constituting carbon atom. Accordingly, the multi-branched polymers of the instant claims cannot be obtained from Matyjaszewski and the present invention is not anticipated. Thus, pending claims 1-3, 7-9, 14-15 and 20 are not anticipated by Matyjaszewski, and this rejection should be withdrawn.

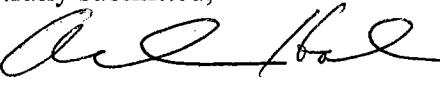
III. Conclusion

In view of the amendments and arguments provided above, the Applicants respectfully request reconsideration and withdrawal of the presently pending rejections under 35 U.S.C. §102(b).

This application is believed to be in condition for allowance, which is earnestly solicited. If the Examiner believes there are further issues that could be advanced by an interview or entry of an Examiner's Amendment, the Examiner is invited to contact the undersigned attorney.

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Respectfully submitted,

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